FIG.1

FIG.2

NETWORK

21 COMMUNICATIONS UNIT

27 SERVER CONTROLLER UNIT

22 RAW MATERIAL INFORMATION DB

23 PAINT PERFORMANCE PREDICTION INFORMATION DB

24 REQUIRED PERFORMANCE INFORMATION DB

25 IMAGE / COLOR CONVERSION TABLE

26 DESIGNED PAINT INFORMATION DB

28 PAINT DESIGN UNIT

- **281** COLOR INFORMATION ACQUIRING UNIT
- **282** INGREDIENT DETERMINING UNIT
- **283** PERFORMANCE PREDICTING UNIT
- **284** PERFORMANCE VERIFYING UNIT
- **285** INGREDIENT-DETERMINED PAINT STORING UNIT
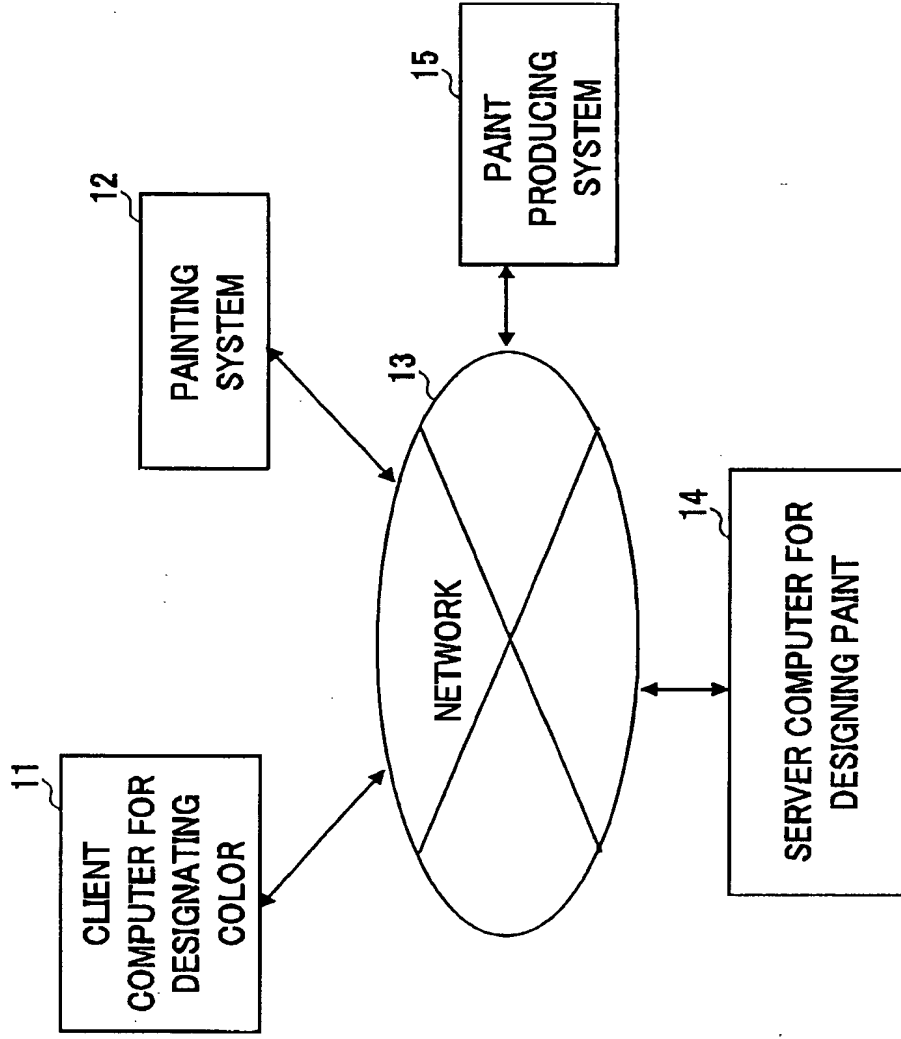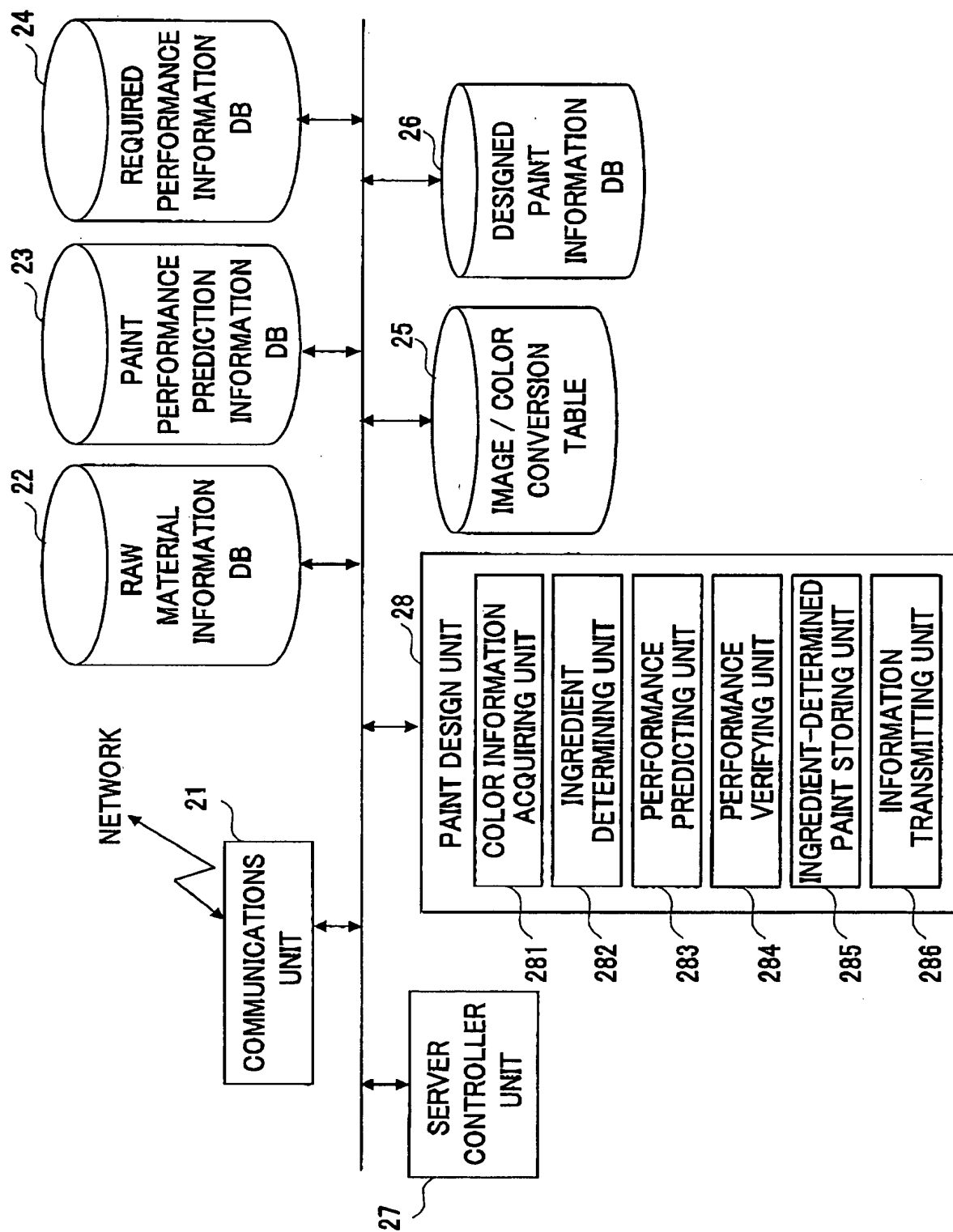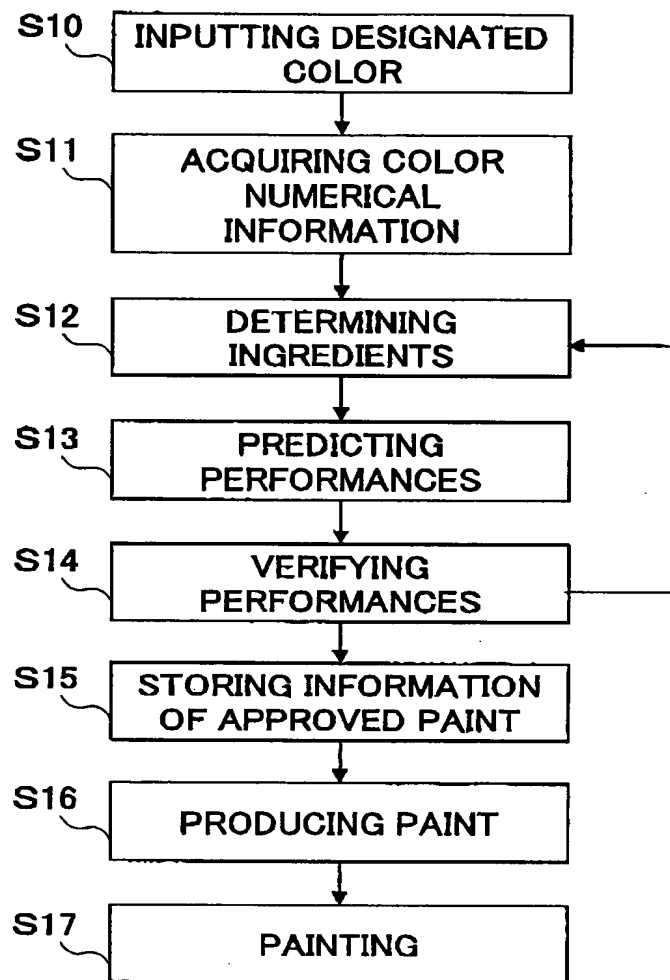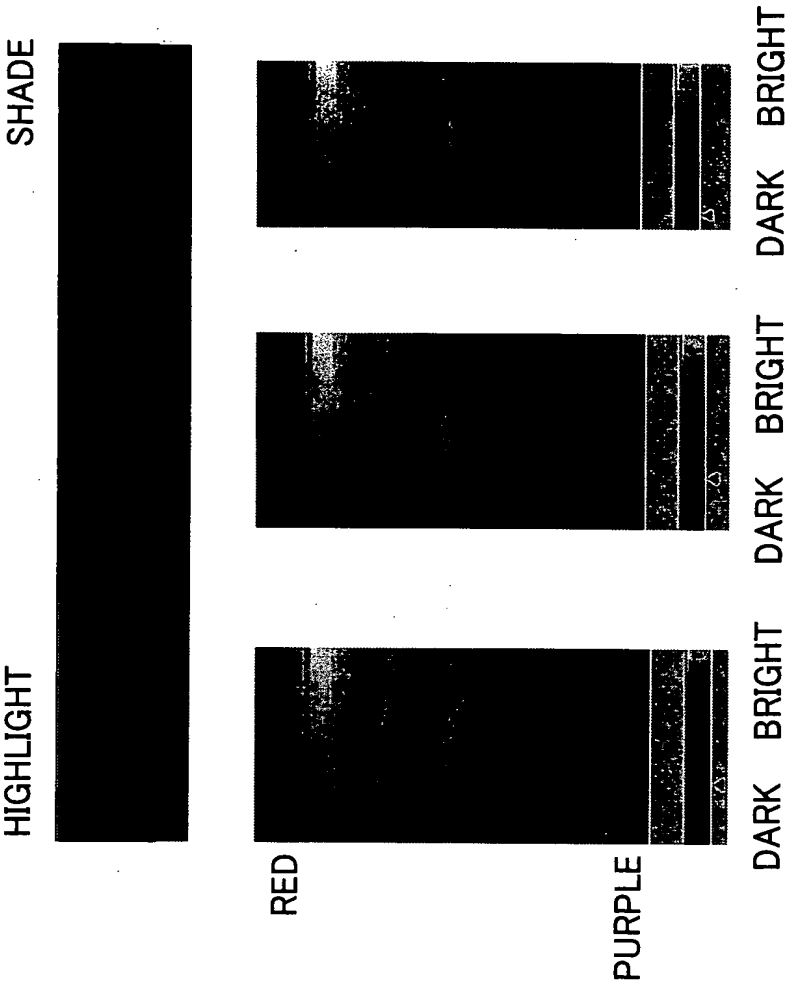- **286** INFORMATION TRANSMITTING UNIT

FIG.3

PAINT NO.	INFORMATION FOR IDENTIFYING CUSTOMER	INFORMATION OF DESIGNATED COLOR	INFORMATION FOR IDENTIFYING INGREDIENTS	INFORMATION RELATED TO INGREDIENTS	INFORMATION OF PERFORMANCES	INFORMATION OF PERFORMANCE VERIFICATIONS
T-03-0001	COMPANY T, LINE A	SILVER FOR AUTOMOBILE A	INGREDIENTS NO. 0001	COST RANK A	AQUEOUS BASECOAT / ACID RAIN RESISTANCE CLEAR	CONCEALMENT=A, WEATHER DURABILITY=A, PAINTING WORKABILITY=B, FILM PROPERTY=A
T-03-0002	COMPANY T, LINE A	DARK BLUE FOR AUTOMOBILE A	INGREDIENTS NO. 0002	COST RANK C	AQUEOUS BASECOAT / ACID RAIN RESISTANCE CLEAR	CONCEALMENT=B, WEATHER DURABILITY=A, PAINTING WORKABILITY=B, FILM PROPERTY=A
M-03-0001	COMPANY M, LINE B	RED FOR AUTOMOBILE B	INGREDIENTS NO. 0003	COST RANK D	SOLVENT BASECOAT / ACRYL MELAMINE BASED CLEAR	CONCEALMENT=C, WEATHER DURABILITY=B, PAINTING WORKABILITY=B, FILM PROPERTY=B
M-03-0002	COMPANY M, LINE B	SILVER FOR AUTOMOBILE B	INGREDIENTS NO. 0004	COST RANK A	SOLVENT BASECOAT / ACRYL MELAMINE BASED CLEAR	CONCEALMENT=A, WEATHER DURABILITY=A, PAINTING WORKABILITY=B, FILM PROPERTY=A

FIG.4

S10 — INPUTTING DESIGNATED COLOR

S11 — ACQUIRING COLOR NUMERICAL INFORMATION

S12 — DETERMINING INGREDIENTS

S13 — PREDICTING PERFORMANCES

S14 — VERIFYING PERFORMANCES

S15 — STORING INFORMATION OF APPROVED PAINT

S16 — PRODUCING PAINT

S17 — PAINTING

FIG.5

SAMPLE COLOR

HIGHLIGHT

SHADE

RED

DARK　BRIGHT　DARK　BRIGHT　DARK　BRIGHT

PURPLE

DARK　BRIGHT　DARK　BRIGHT　DARK　BRIGHT

FIG.6

INGREDIENTS

PIGMENT A	15.0
PIGMENT B	5.0
PIGMENT C	5.0
PIGMENT D	2.0
TOTAL	27.0

FIG.7

TARGET

RESULT OF
COMPUTATION

FIG.8A

15°

SPECTRAL
REFLECTION
FACTOR

WAVELENGTH

FIG.8B

45°

SPECTRAL
REFLECTION
FACTOR

WAVELENGTH

FIG.8C

75°

SPECTRAL
REFLECTION
FACTOR

WAVELENGTH
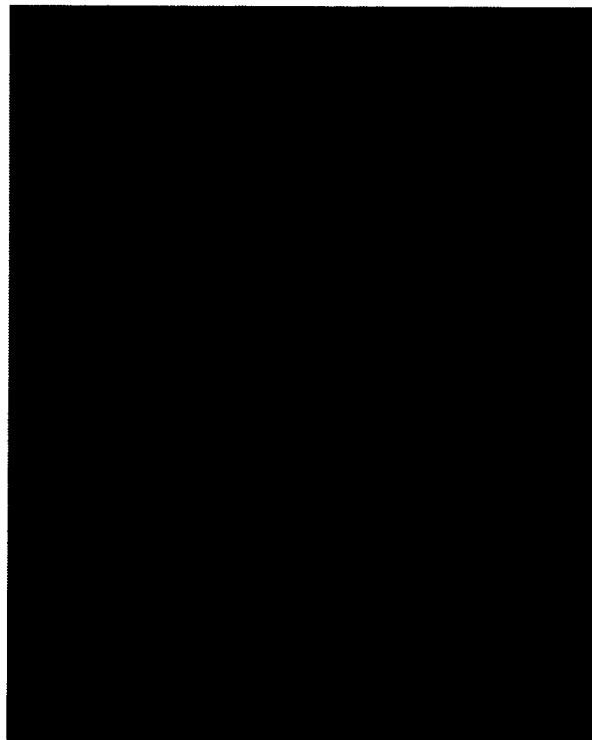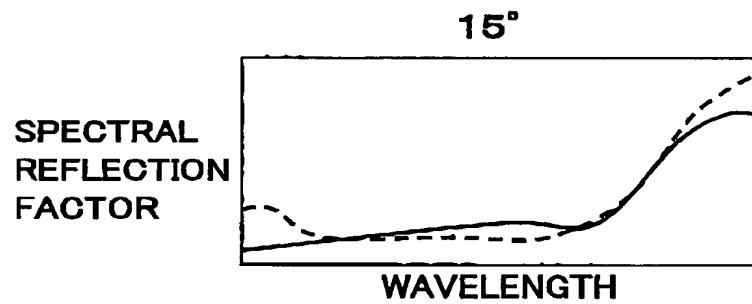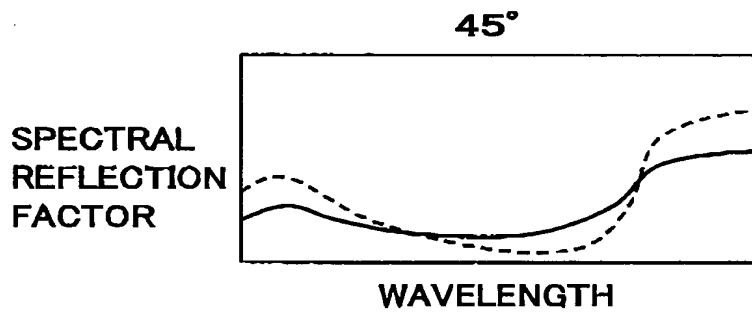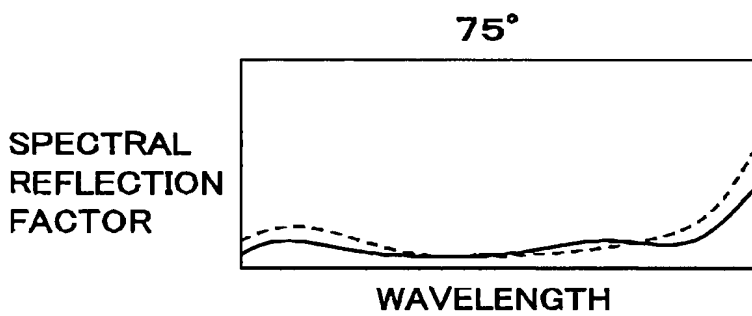
FIG.9

PREDICTED PERFORMANCES

	PREDICTED RANK	COMMENTS
WEATHER DURABILITY	A	OK
PAINTING WORKABILITY A	B	OK
PAINTING WORKABILITY B	A	OK
COATING FILM PERFORMANCE A	C	OK
COATING FILM PERFORMANCE B	C	OK
COATING FILM PERFORMANCE C	D	NG (BECAUSE PIGMENT B IS INCLUDED)

FIG.10

CLIENT COMPUTER
FOR DESIGNATING
COLOR 11

PAINTING SYSTEM 12

NETWORK 13

SERVER COMPUTER
FOR DESIGNING PAINT 14

PAINT
PRODUCING
SYSTEM 141

FIG.11

CLIENT COMPUTER
FOR DESIGNATING
COLOR
11

PAINTING
SYSTEM
12

PAINT
PRODUCING
SYSTEM
121

NETWORK
13

SERVER COMPUTER
FOR DESIGNING PAINT
14

FIG.12

```
                                     12
                                    ┌─┘
  122                            ┌──────────┐
 ┌─┘                            │ PAINTING │
┌─────────────┐                 │  SYSTEM  │
│   CLIENT    │                 └──────────┘
│  COMPUTER   │◄──────────►         ▲
│FOR DESIGNATING│                   │
│    COLOR    │                     │
└─────────────┘                     ▼
                              ╱──────────╲
                             │╲  NETWORK  ╱│
                             │ ╲        ╱ │──13
                             │ ╱        ╲ │
                             │╱          ╲│
                              ╲──────────╱
                                   ▲
                                   │                    141
                                   │                   ┌─┘
                                   ▼              ┌──────────┐
                             ┌──────────┐         │  PAINT   │
                             │  SERVER  │         │PRODUCING │
                             │ COMPUTER │◄───────►│  SYSTEM  │
                             │FOR DESIGNING│       └──────────┘
                             │   PAINT   │
                             └──────────┘
                                  └─14
```

FIG.13

CLIENT COMPUTER FOR DESIGNATING COLOR — 122

PAINTING SYSTEM — 12

PAINT PRODUCING SYSTEM — 121

NETWORK — 13

SERVER COMPUTER FOR DESIGNING PAINT — 14

FIG.14

```
                                          PAINT
                                        PRODUCING    121
                                         SYSTEM

SERVER COMPUTER   123
FOR DESIGNING PAINT
                          PAINTING    12
                          SYSTEM
CLIENT COMPUTER   122
FOR DESIGNATING
    COLOR
                          NETWORK    13


                                        INFORMATION    14
                                      PROVIDING SERVER
```
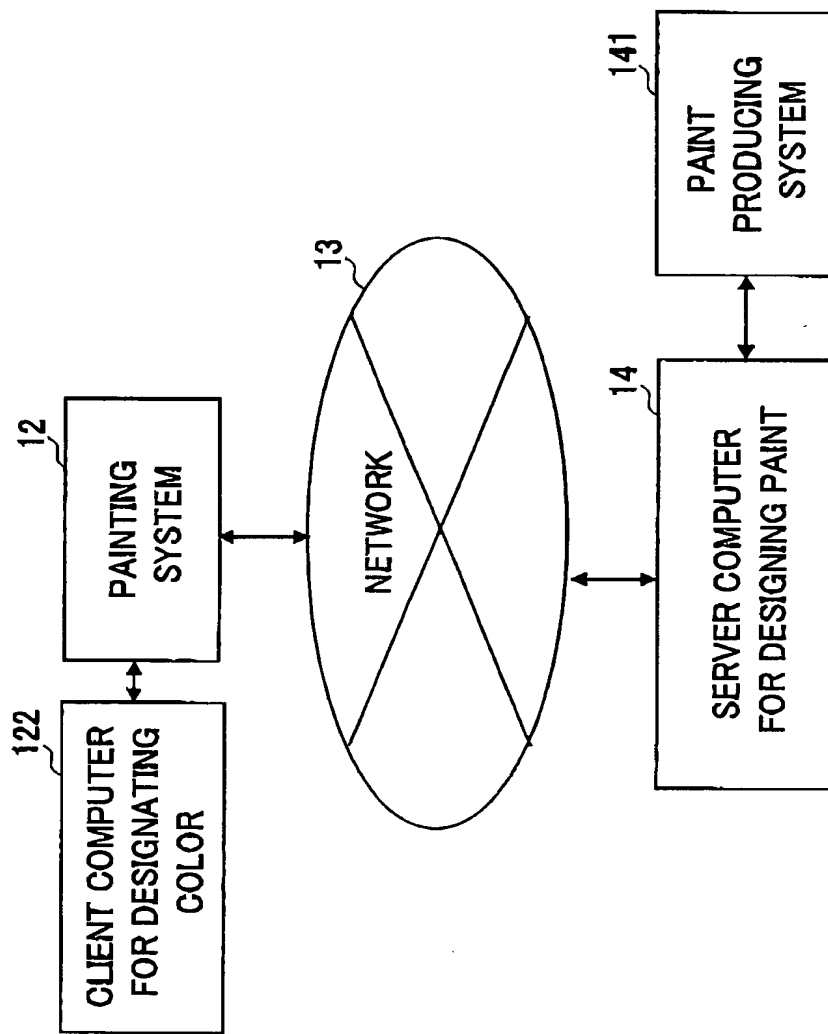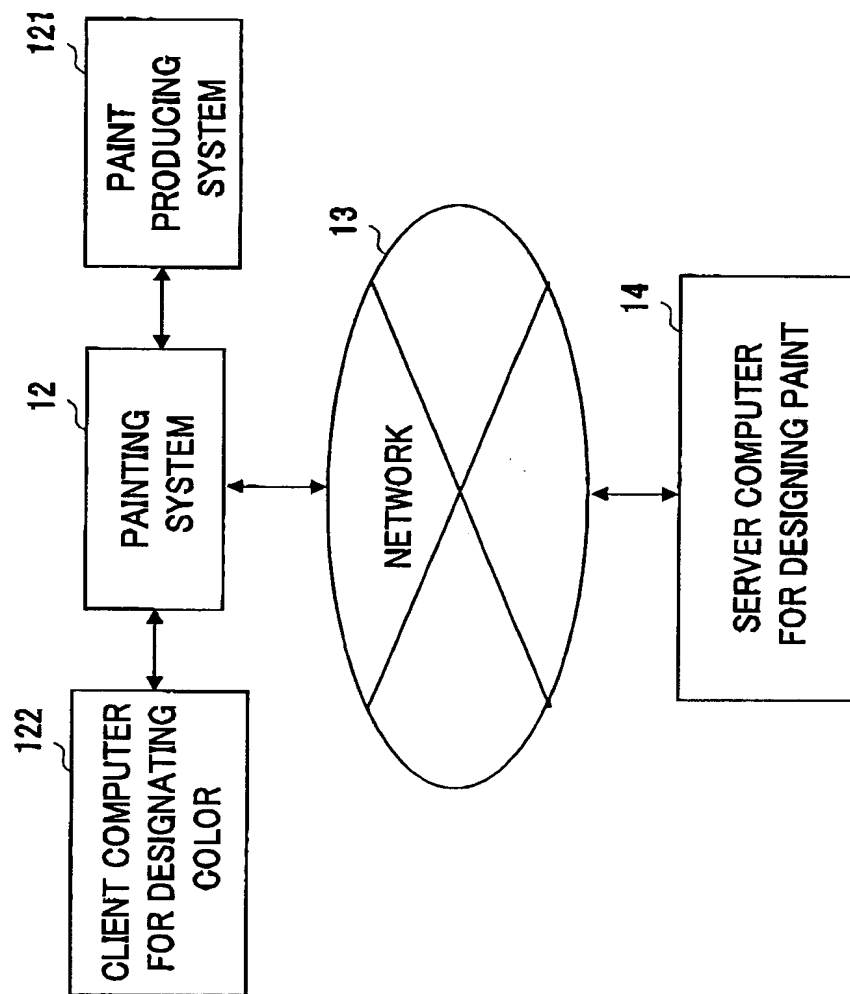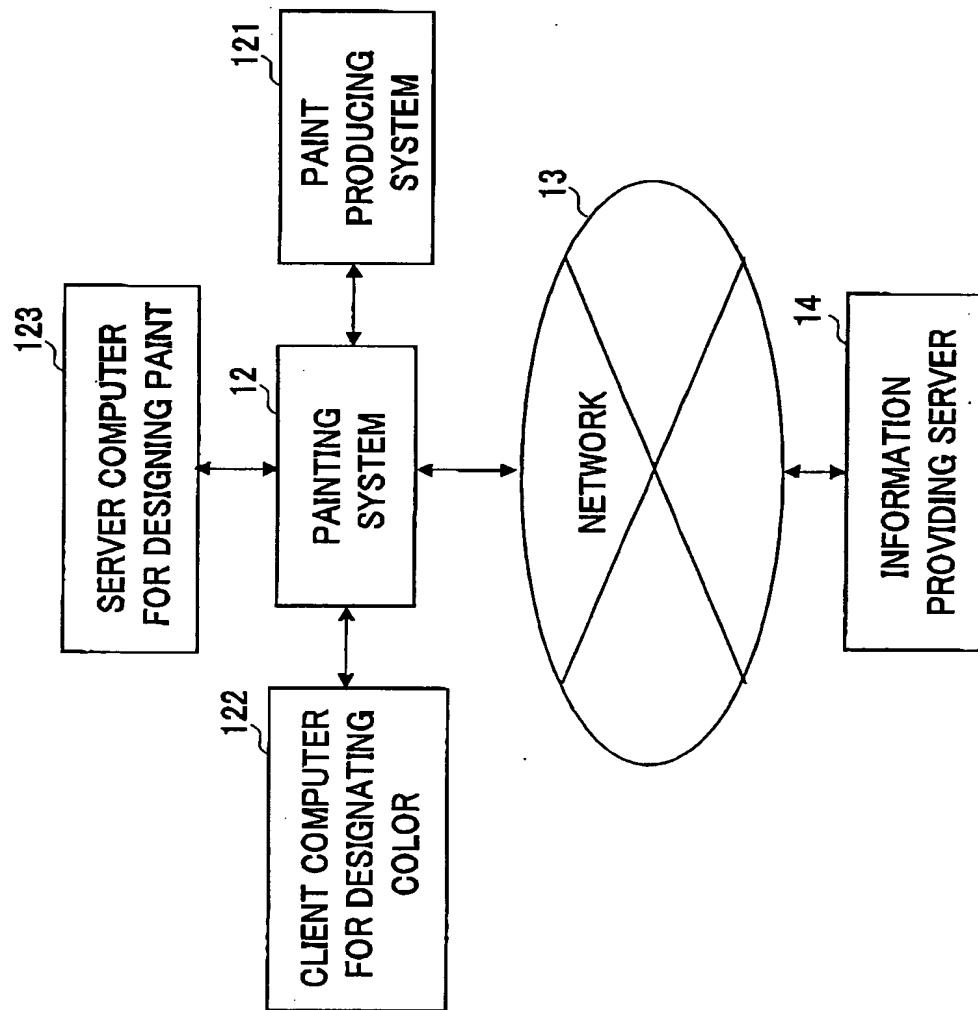
FIG.15

	SYSTEM DIAGRAM	CLIENT COMPUTER FOR DESIGNATING COLOR	PAINTING SYSTEM	PAINT PRODUCING SYSTEM	SERVER COMPUTER FOR DESIGNING PAINT	INFORMATION PROVIDING SERVER	NOTES
A	FIG. 1	S10	S17	S16	S11~15	-	
B	FIG. 10	S10	S17	-	S11~16	-	
C	FIG. 11	S10	S16, 17	-	S11~15	-	
D	FIG. 12	-	S10, 17	-	S11~16	-	
E	FIG. 13	-	S10, 16, 17	-	S11~15	-	
F	FIG. 14	-	S10~17	-	-	INFORMATION PROVIDING	

FIG.16

	SYSTEM DIAGRAM	CLIENT COMPUTER FOR DESIGNATING COLOR	PAINTING SYSTEM	PAINT PRODUCING SYSTEM	SERVER COMPUTER FOR DESIGNING PAINT	INFORMATION PROVIDING SERVER	NOTES
A	VARIATION OF FIG. 12	—	S10, 17	S16	S11~15	—	INDEPENDENT PRODUCING SYSTEM
B	VARIATION OF FIG. 13	—	S10, 17	S16	S11~15	—	INDEPENDENT PRODUCING SYSTEM